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Page 1 of 17

Urgent

Confidential

Date: June 6, 2005

**To:**  
Examiner: Steven HD Nguyen  
USPTO

**Fax:**  
(703) 872-9306

**Art Unit:**  
2665

**From:**  
Stuart A. Whittington  
Intel Corporation

**Fax:**  
480-715-7738

**M/S:**

**Subject:** Application No.: 08/766,895    **Docket #:** 42390P3991  
**Filed:** 12/13/1996    **Inventor:** Dunning et al.

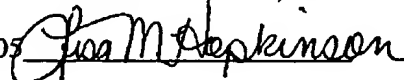
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Fee Transmittal (1 page submitted in duplicate)

Amended Brief on Appeal (13 pages including Appendix A)

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<b>TRANSMITTAL FORM</b>  (to be used for all correspondence after initial filing)	Application Number	08768,638	
	Filing Date	12/19/1998	
	First Named Inventor	David S. Dunning	
	Art Unit	2865	
	Examiner Name	NGUYEN, Steven MD	
Total Number of Pages in This Submission	17	Attorney Docket Number	42800P3801

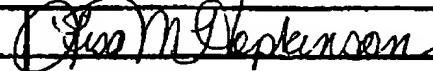
ENCLOSURES (Check all that apply)		
<input checked="" type="checkbox"/> Fee Transmittal Form <input checked="" type="checkbox"/> Fee Attached <input type="checkbox"/> Amendment/Reply <input type="checkbox"/> After Final <input type="checkbox"/> Affidavit/Declaration(s) <input type="checkbox"/> Extension of Time Request <input type="checkbox"/> Express Abandonment Request <input type="checkbox"/> Information Disclosure Statement <input type="checkbox"/> Certified Copy of Priority Document(s) <input type="checkbox"/> Reply to Missing Parts/Incomplete Application <input type="checkbox"/> Reply to Missing Parts under 37 CFR 1.62 or 1.63	<input type="checkbox"/> Drawing(s) <input type="checkbox"/> Licensing-related Papers <input type="checkbox"/> Petition <input type="checkbox"/> Petition to Convert to a Provisional Application <input type="checkbox"/> Power of Attorney, Revocation <input type="checkbox"/> Change of Correspondence Address <input type="checkbox"/> Terminating Disclaimer <input type="checkbox"/> Request for Refund <input type="checkbox"/> CD, Number of CD(s) _____ <input type="checkbox"/> Landscape Table on CD	<input type="checkbox"/> After Allowance Communication to TC <input type="checkbox"/> Appeal Communication to Board of Appeals and Interferences <input checked="" type="checkbox"/> Appeal Communication to TC (Appeal Notice, Brief, Reply Brief) <input type="checkbox"/> Proprietary Information <input type="checkbox"/> Status Letter <input checked="" type="checkbox"/> Other Enclosure(s) (please identify below): Fax Cover Sheet
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## SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT

Firm Name	INTEL CORPORATION		
Signature			
Printed name	Stuart A. Whitington		
Date	June 6, 2005	Reg. No.	45,216

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## FEE TRANSMITTAL For FY 2005

☐ Applicant claims small entity status. See 37 CFR 1.27

<b>TOTAL AMOUNT OF PAYMENT</b>		<b>(\$)</b>	<b>600.00</b>
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Complete if Known	
Application Number	08/795,895
Filing Date	12/13/1999
First Named Inventor	David S. Dunning
Examiner Name	Steven HD Nguyen
Art Unit	2805
Attorney Docket No.	42390P3001

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☒ Deposit Account. Deposit Account Number: 60-0221 Deposit Account Name: Intel Corporation

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**FEE CALCULATION**

**1. BASIC FILING, SEARCH, AND EXAMINATION FEES**

Application Type	FILING FEES		SEARCH FEES		EXAMINATION FEES		Fees Paid (\$)
	Fee (\$)	Small Entity Fee (\$)	Fee (\$)	Small Entity Fee (\$)	Fee (\$)	Small Entity Fee (\$)	
Utility	300	150	500	250	200	100	
Design	200	100	100	50	130	65	
Plant	200	100	300	150	160	80	
Reissue	300	150	500	250	600	300	
Provisional	200	100	0	0	0	0	

**2. EXCESS CLAIM FEES**

Fee Description	Fee (\$)	Small Entity Fee (\$)
Each claim over 20 (including Reissues)	50	25
Each independent claim over 3 (including Reissues)	200	100
Multiple dependent claims	360	180

**Total Claims** \_\_\_\_\_ **Extra Claims** \_\_\_\_\_ **Fee (\$)** \_\_\_\_\_ **Fee Paid (\$)** \_\_\_\_\_

\_\_\_\_\_ - 20 or HP = \_\_\_\_\_ x \_\_\_\_\_ = \_\_\_\_\_

HP = highest number of total claims paid for, if greater than 20.

**Indep. Claims** \_\_\_\_\_ **Extra Claims** \_\_\_\_\_ **Fee (\$)** \_\_\_\_\_ **Fee Paid (\$)** \_\_\_\_\_

\_\_\_\_\_ - 3 or HP = \_\_\_\_\_ x \_\_\_\_\_ = \_\_\_\_\_

HP = highest number of independent claims paid for, if greater than 3.

**3. APPLICATION SIZE FEE**

If the specification and drawings exceed 100 sheets of paper (excluding electronically filed sequence or computer listings under 37 CFR 1.52(e)), the application size fee due is \$250 (\$125 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(e)(1)(G) and 37 CFR 1.16(e).

**Total Sheets** \_\_\_\_\_ **Extra Sheets** \_\_\_\_\_ **Number of each additional 50 or fraction thereof** \_\_\_\_\_ **Fee (\$)** \_\_\_\_\_ **Fee Paid (\$)** \_\_\_\_\_

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**4. OTHER FEE(S)**

Non-English Specification, \$130 fee (no small entity discount) **Fees Paid (\$)** \_\_\_\_\_

Other (e.g., late filing surcharge): 4120b(2) - 1402 - Filing a Brief in Support of an Appeal **Fees Paid (\$)** 8500

<b>SUBMITTED BY</b>	
Signature _____	Registration No. 45,215 (Attorney/Agent)
Name (Print/Type) <u>Stuart A. Whittington</u>	Date <u>June 6, 2005</u>

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**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

In re Application of Dunning et al.

Atty. Docket No: 42390.P3991

Appln. No.: 08/766,895

Group Art Unit: 2665

Filed: December 13, 1996

Examiner: Nguyen, Steven H D

Title: METHOD AND APPARATUS FOR ROUTING ENCODED SIGNALS THROUGH A NETWORK

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Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

**BRIEF ON APPEAL**

In response to the Advisory Action dated February 25, 2005 and pursuant to Appellant's Notice of Appeal filed on April 4, 2005, Appellant presents this Brief and fee under 37 C.F.R. § 1.17(c) in appeal of the Final Rejection dated November 2, 2004.

**I. REAL PARTY IN INTEREST.**

Intel Corporation is the real party in interest.

**II. RELATED APPEALS AND INTERFERENCES.**

There are no related appeals or interferences before the Board of Patent Appeals and Interferences known to Appellant, the Appellant's legal representatives, or assignee that will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

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APPELLANT'S BRIEF  
U.S. Appln. No. 08/766,895

### III. STATUS OF CLAIMS.

Claims 1-27 are pending in the application. Claims 1-27 stand finally rejected and are the claims subject to this appeal as are reproduced in Appendix A.

### IV. STATUS OF AMENDMENTS.

No amendments have been filed after the Final Office Action dated November 2, 2004.

### V. SUMMARY OF CLAIMED SUBJECT MATTER.

Simply stated and generally speaking, in one embodiment of Appellant's invention a method for routing encoded signals through a network is provided. The encoded signals are in a packet that may include a header which may be received and decoded by a switch (e.g., switch 140 in Fig. 1). At least a portion of the header may include encoded binary digital signals specifying a route through the network for the packet to navigate through the network. The switch may be able to determine the routing without decoding the header portion. More specifically, rather than decoding bits in a header that provides a switch information on how to route a packet to a destination port and then re-encode those bits, Appellant's embodiment provides a technique where a bit pattern is chosen for the header so that when the bit pattern is encoded, it directly provides information regarding routing the packet through the network in its encoded form. (See pg. 10, ll. 3-10 of Appellant's specification).

Therefore, in this particular embodiment of Appellant's invention, the encoded binary digital signals specify a route through the network without having to decode the encoded binary

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digital signals. This may be accomplished using a look-up table in a route unit or router, for example. (Pg. 10, ll. 10-13).

Fig. 2 provides an example of how a packet may be arranged in accordance with one embodiment of Appellant's invention. As shown, a packet may include a destination address as part of a header 310, a trailer 33 for use in cyclical redundancy checking (CRC) and a payload 320. The payload may include the data or binary digital signals being transferred. (Pg. 8, ll. 16-20).

By way of example, Appellants claim 1 recites:

*A method of routing a packet (e.g., packet shown in Fig. 2) of binary digital signals through a network, said method comprising:*

*receiving at a switch (e.g., switch 140) in said network the packet of binary digital signals as encoded binary digital signals including a bit pattern (e.g., bits in header 310) chosen so that when the bit pattern is encoded it directly provides information regarding routing the packet through the network in its encoded form; and*

*copying said bit pattern, at least for decoding.*

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**VI. GROUND OF REJECTION TO BE REVIEWED ON APPEAL<sup>1</sup>.**

The sole issue for consideration on this appeal is:

A. Whether claims 1-27 are properly rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent 5,442,474 to Huang et al. (hereinafter "Huang").

**VII. ARGUMENT.**

**A. THE CLAIMS ARE NOT ANTICIPATED BY HUANG.**

Claims 1-27 stand finally rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent 5,442,474 ("Huang"). For the reasons that follow, Appellant respectfully requests this rejection be overturned.

As is well-established, in order to establish a *prima facie* case of anticipation, the cited prior art must teach or suggest every limitation of the claims being rejected. Therefore, if even one claim element or limitation is missing from the cited prior art, a *prima facie* case is not established.

It is respectfully asserted that, as one example, Huang fails to teach or suggest a method where binary digital signals are encoded to include a bit pattern selected so that it directly provides information regarding routing the packet through the network in its encoded form (e.g., Appellants claim 1).

This case has previously been before this Court on the same prior art grounds. (See Appeal No. 2003-0206 Decision). In its earlier decision, this Court noted that the Examiner's

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rationale regarding header bits was incorrect but affirmed the rejection on the Examiner's second rationale regarding the routing bits as Appellant did not address or rebut this issue in its previous appeal<sup>2</sup>. (Id at pgs. 7-9).

Thus the issue on this second appeal is whether Huang's router bits Ao-Do (Huang col. 6, ll. 14-31) read on Appellant's claims; Appellant respectfully submits they do not.

Huang discloses routing bits for each data packet A, B, C and D designated by subscript o. (Col. 3, ll. 56-57). These routing bits are used for de-multiplexing (i.e., separating a multi-channel signal into different channels) an N-channel optical signal consisting of multiplexed routing bits and data bits. (Col. 1, ll. 47-49; col. 6, ll. 23-24). In essence, each Huang packet includes routing bits Ao-Do which can be designated a binary logic value of 1 or 0. Depending on the binary value of routing bit signals Ao-Do, the exchange/bypass switch 170 of Huang can demultiplex the incoming signal into separate data signal paths. (Col. 6, ll. 28-31).

The crux of the rejection at hand is that the Examiner alleges routing bits Ao-Do are analogous to Appellant's claimed encoded binary digital signals having a bit pattern selected so that it directly provides information regarding routing the packet through the network in its encoded form.

Appellant concedes that Huang does have routing bits which are used to separate a multi-channel signal into respective communication paths (e.g., Fig. 5). However, Appellant does not

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<sup>2</sup> This rational was never present in the Final Office Action but first set forth in the Examiner's Answer dated March 26, 2002.



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believe routing bits Ao-Do are ever "encoded" or include any pattern nor does switch 500 route packets through a network in their encoded form. Instead, Huang routing bits Ao-Do simply have a pre-assigned binary logic state (i.e., 1 or 0) and the output of node 500 (Fig. 5) is only the data bits A1x-D1x (i.e., without routing bits Ao-Do there can be no routing of packets through the network in encoded form).

Appellant believes there is a fundamental misunderstanding of the instant invention. Appellant's invention is directed to methods and devices for routing encoded binary signals through a network without each network device having to independently decode the signals to know where they are to be routed; and thus they can be efficiently forwarded through the network in their encoded form. By way of contrast, Huang is directed to de-multiplexing a multi-channel signal by checking logic values of individual routing bits. Appellant submits Huang does not teach or suggest encoded binary signals or an encoded bit pattern.

Respectfully, Appellant believes Huang is not remotely related to the instantly claimed invention since encoding and decoding are not disclosed by Huang whatsoever. Accordingly, the additional limitation of *copying the bit pattern, at least for decoding*, which are recited in Applicant's claims 1 and 10 are also not disclosed or suggested by Huang.

Furthermore, independent claims 10, 17, 22 and 25 all recite the limitation, that *when the bit pattern is encoded it directly provides information regarding routing of the packet routing the packet through the network in its encoded form without decoding*. Again, since Huang does not

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mention or suggest any type of encoding or decoding, it is respectfully submitted that Huang cannot anticipate these claims.

In the Final Office Action dated November 2, 2004, the Examiner alleges that "Huang discloses encoded binary signals by virtue of the routing bits being in binary form such as 0 and 1. (11/04/04 Final Office Action pg. 8). Appellant respectfully believes this interpretation is not reasonable and would not be the interpretation of one skilled in the art in view of the specification and existing prior art. All binary signals are necessarily in the form of 1s or 0s so given this overly broad interpretation, all binary signals would encoded binary signals. Respectfully, this interpretation entirely disregards the embodiments (and context) disclosed in Appellant's specification (see pg. 9, II.14-15) as well as that known by one of ordinary skill in the art. There are many techniques for encoding binary signals, including for example Manchester encoding, as discussed in Appellant's specification.

In respect to claim 10, the Office Action alleges that Huang node 500 is analogous to Appellant's claimed switch. Here, Appellant specifically recites a bit pattern (e.g., a pattern of bits) chosen so that when the bit pattern is encoded, it directly provides information..... The Office Action alleges Huang routing bits are analogous to Appellant's bit pattern. However, there is no pattern or arrangement of Huang routing bits to indicate routing information, it is the logic value of the routing bits themselves that provide routing information in Huang. While there may be a plurality of routing bits in the N-channel stream (Fig. 2), their pattern or arrangement has no significance in the routing function.

APPELLANT'S BRIEF  
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Additional limitations, but not necessarily an exhaustive list, present in Appellant's claims which are not believed to be taught or disclosed by Huang include:

- decoding the copied encoded binary digital signals (claims 2 and 12)*
- translating the deserialized and decoded binary digital signals (claim 4)*
- said encoded binary digital signals... comprise and encoded destination address (claims 8 and 15)*
- encoded binary digital signals comprise...signals specifying a route through the network if decoded (claims 9 and 16)*
- switch adapted to serially copy the encoded binary digital signals (claim 11)*
- encoded binary signals specifying route through network without decoding comprise a portion of the header of the packet (claims 18 and 23) (see Huang Fig. 2)*

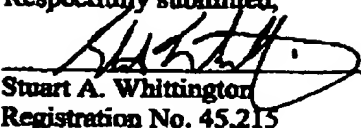
For all the foregoing reasons, Appellant respectfully submits that Huang does not anticipate claims 1-27 and the rejection thereof is requested to be overturned.

**VIII. CONCLUSION.**

It is respectfully submitted that in view of the foregoing all of the pending claims are patentable over the cited prior art references, alone or in any combination, and the Board is respectfully requested to overturn the rejections of record and allow this application to issue.

**APPELLANT'S BRIEF**  
**U.S. Appl. No. 08/766,895**

Respectfully submitted,

  
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Date: June 6, 2005

APPELLANT'S BRIEF  
U.S. Appln. No. 08/766,895

**APPENDIX A**  
**(Claims on Appeal)**

1. A method of routing a packet of binary digital signals through a network, said method comprising:

receiving at a switch in said network the packet of binary digital signals as encoded binary digital signals including a bit pattern chosen so that when the bit pattern is encoded it directly provides information regarding routing the packet through the network in its encoded form; and

copying said bit pattern, at least for decoding.

2. The method of claim 1, and further comprising a step of decoding the copied encoded binary digital signals.

3. The method of claim 2, wherein the step of receiving the packet of binary digital signals comprises receiving the packet serially; and further comprising a step of deserializing the decoded binary digital signal.

4. The method of claim 3, and further comprising a step of translating the deserialized and decoded binary digital signals.

5. The method of claim 4, and further comprising a step of routing the received packet of binary digital signals in accordance with the translated binary digital signals.

6. The method of claim 5, wherein the step of routing comprises routing the packet of binary digital signals to another switch in the network.

7. The method of claim 5, wherein the step of routing comprises routing the packet of binary digital signals to its destination in the network.

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**APPENDIX A**  
**(Claims on Appeal)**

8. The method of claim 1, wherein said encoded binary digital signals used to route the packet through the network comprises and encoded destination address

9. The method of claim 1, wherein said encoded binary digital signals used to route the packet through the network comprise encoded binary digital signals specifying a route through the network if decoded.

10. An integrated circuit comprising: a switch adapted to receive a packet of binary digital signals as encoded binary digital signals including a bit pattern chosen so that when the bit pattern is encoded it directly provides information regarding routing the packet through the network in its encoded form;

said switch being further adapted to copy the encoded binary digital signals including the bit pattern, at least for decoding.

11. The integrated circuit of claim 10, wherein said switch is further adapted to serially receive said packet and to serially copy the encoded binary digital signals used to route the packet through the network

12. The integrated circuit of claim 11, wherein said switch is further adapted to decode and deserialize of the copied encoded binary digital signals used to route the packet through the network.

13. The integrated circuit of claim 12, wherein said switch is further adapted to translate the decoded and deserialized binary digital signals.

14. The integrated circuit of claim 13, wherein the switch is coupled in the network, said switch being adapted to route the received packet of binary digital signals in accordance with the translated binary digital signals.

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**APPENDIX A**  
**(Claims on Appeal)**

15. The integrated circuit of claim 10, wherein the encoded binary digital signals used to route the packet through the network comprise an encoded destination address.

16. The integrated circuit of claim 10, wherein the encoded binary digital signals used to route the packet through the network comprise encoded binary digital signals specifying a route through the network if decoded.

17. A method of routing a packet of binary digital signals through a network, said method comprising:

receiving at a switch in the network the packet of binary digital signals as encoded binary digital signals including a bit pattern chosen so that when the bit pattern is encoded it directly provides information regarding routing the packet through the network in its encoded form without decoding.

18. The method of claim 17, wherein said encoded binary digital signals specifying a route through the network without decoding comprises a portion of the header of the packet of binary digital signals.

19. The method of claim 17, further comprising a step of: routing the packet of binary digital signals in accordance with the encoded binary digital signals specifying a route through said network without decoding.

20. The method of claim 19, wherein the step of routing comprises routing the packet of binary digital signals to another switch in the network.

21. The method of claim 19, wherein the step of routing comprises routing the packet of binary digital signals to a destination in the network.

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**APPENDIX A**  
**(Claims on Appeal)**

22. An integrated circuit to receive a packet of binary digital signals, the packet of binary digital signals including a bit pattern chosen so that when the bit pattern is encoded it directly provides information regarding routing the packet through a network in its encoded form without decoding.

23. The integrated circuit of claim 22, wherein said encoded binary digital signals comprises a portion of the header of the packet of binary digital signals.

24. The integrated circuit of claim 23, wherein said switch is coupled in the network, said switch being adapted to route the packet of binary digital signals in accordance with the encoded binary digital signals specifying a route through the network without decoding.

25. An integrated circuit comprising: a route unit adapted to produce binary digital signals to be included in a packet of binary digital signals that after encoding includes a bit pattern chosen so that when the bit pattern is encoded it directly provides information regarding routing the packet through a network in its encoded form without decoding.

26. The integrated circuit of claim 25, wherein said route unit is embodied in a network interface component (NIC).

27. The apparatus of claim 26, wherein said NIC is coupled to a switch, said switch being adapted to route the packet of binary digital signals through the network in accordance with the encoded binary digital signals specifying a route through the network without decoding.